

**Notice of Allowability**

Application No.

10/792,279

Examiner

Vincent E. Kovalick

Applicant(s)

CRUZ-HERNANDEZ ET AL.

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's Amendment dated 10/22/07.
2. ☒ The allowed claim(s) is/are 9-14 and 16-22 (re-numbered 1-13).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>10/22/07</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                   | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to Applicant's Amendment dated October 22, 2007, in response to USPTO Office Action dated July 20, 2007.

The amendments to claims 9, 13, 17, the cancellation of claims 1-9 and 15 and the merit of Applicant's remarks are sufficient to place the application in a condition for allowance as set forth hereinbelow.

### *Allowable Subject Matter*

2. Claims 9-14 and 16-22 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Relative to claim 9, the major difference between the teachings of the prior art of record (USP 6,429,849, An et al.; Pub. No. 2002/0159336, Brown and USP 5,735,280, Sherman et al.) and that of the instant invention is that said prior art of record **does not teach** a method, comprising: receiving a drive signal associated with a haptic feedback signal, the drive signal having operating at a predetermined drive frequency; and applying the drive signal to an electro-mechanical transducer to cause the transducer to produce a haptic effect, the electro-mechanical transducer operating in at least one resonant mode from a plurality of resonant modes in response to the predetermined drive frequency of the drive signal.

Regarding claim 13, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** a method comprising receiving a drive signal; and applying the drive signal to a first electro-mechanical transducer, the electro-mechanical transducer having a plurality of operational modes in response to the drive signal, each operational mode from the plurality of operational modes having its own combination of at least one resonant mode from a plurality of resonant modes; applying the drive signal to a second electro-mechanical device different from the first electro-mechanical device, the second electro-mechanical

device and the first electro-mechanical device collectively having the plurality of operational modes, the plurality of operational modes including a first operational mode and a second operational mode; and changing from the first operational mode to the second operational mode by altering a characteristic of the drive signal.

Relative to claim 17, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** an apparatus, comprising: a signal source, the signal source being configured to output a haptic feedback signal; a driver, the driver being configured to receive the haptic feedback signal and output a drive signal having a predetermined drive\_frequency; and an electro-mechanical transducer being configured to receive the drive signal, the electro-mechanical transducer being operative in configured to have a plurality of operational modes, each operational mode from the plurality of operational modes having at least one resonant mode from a plurality of resonant modes, wherein the electro-mechanical transducer outputs a haptic effect in the at least one resonant mode in response to the predetermined drive frequency.

Regarding claim 21, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** a handheld communication device comprising: a cantilevered transducer being configured to receive a drive signal, the cantilevered transducer being operative in a plurality of operational modes, each operational mode from the plurality of operational modes having at least one resonant mode from a plurality of resonant modes, wherein the electro-mechanical transducer outputs a haptic effect in the at least one resonant mode in response to the predetermined drive frequency.

Relative to claim 22, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** a method of producing a haptic effect in a handheld communication device, the method comprising: providing a cantilevered transducer having a first fixed end and a second end which is flexibly moveable with respect to the first fixed end, the transducer having a mass fixed thereon a predetermined length from the first end; receiving a drive signal associated with a haptic feedback signal, the drive signal having operating at a drive frequency; and applying the drive signal to the transducer to produce a haptic effect, the electro-

mechanical transducer operating in at least one resonant mode from a plurality of resonant modes in response to the drive frequency of the drive signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No.	7,161,580	Bailey et al.
U. S. Patent No.	6,232,697	Mizumoto
U. S. Patent No.	4,490,841	Chaplin et al.

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***To Respond***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E. Kovalick whose telephone number is 571-272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Vincent E. Kovalick  
December 11, 2007



BIPIN SHALWALA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600